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## THE GARDEN CALENDAR

A radio discussion by W. R. Beattie, Bureau of Plant Industry, delivered in the Department of Agriculture period of the National Farm and Home Hour, broadcast by a network of 48 associate NBC radio stations, Monday, August 24, 1936.

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Hello Folks: This morning while looking over my mail, I came across a new Department of Agriculture publication bearing the title "Temperature Studies of Some Tomato Pathogens." Great day, I thought, is this something else to plague those of us who grow tomatoes in our gardens. The word "Pathogens" you know means diseases. A hasty glance through the pages of the bulletin dispelled my fears for it proved to be a report of tests to determine the effect of temperature on the various pathogens or fungus diseases that attack tomato fruits, especially after they are picked and either waiting until they are canned or otherwise used at home or while they are on the way to the consumer in the city. The tests included green as well as ripe tomatoes for as you know a great many of the early tomatoes grown in the South are picked while still green.

These experiments show that there is very little growth or development of the various diseases at temperatures below 45 degrees. In practically every case the growth of the disease was greatest at temperatures between 70 and 80 degrees, considerably slower between 60 and 70 degrees, still slower between 45 and 60 degrees and very slow when the cultures were kept below 45 degrees. The lesson that we are to draw from the results obtained in this study of diseases affecting the fruits of the tomato is that if you want your tomatoes to keep sound until used, then keep them reasonably cool.

At this season when large quantities of perishable fruits and vegetables are being handled every care should be exercised to protect the various products from infection. Many of the pathogens gain access to the fruits or vegetables through cracks or any skin puncture and once inside the growth of the disease proceeds very rapidly at high temperatures and very slowly at lower temperatures. Careful picking and handling is very essential to prevent bruising and skin punctures. You know the skin of a tomato or an apple is just like the skin of our bodies, it is the more or less tough covering that protects the body from injury. If you puncture or cut through your skin and do not promptly disinfect the wound infection will set in. That infection is the direct result of pathogens or disease organisms entering your flesh through the wound. The case is exactly parallel with a tomato or an apple and decay is much more certain and rapid where there is a break in the skin through which the disease can enter.

Gather your tomatoes, peaches, apples, plums or whatever you are handling early in the morning while they are still cool from the night. Do not allow them to remain exposed to the sun but get them into the shade and the coolest place you can find. If you are loading them onto a truck

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or a wagon for transportation to the market, by all means cover the load with a canvas. Incidentally a white canvas will keep out more sun heat than a black or dark-colored canvas because white reflects the heat while black absorbs heat.

In addition to keeping the products as cool as possible prompt handling is essential and the sooner they are gotten to the market or used at home the better will be the quality. This is especially true of sweet corn for tests made a few years ago by Department workers showed that the sugar content of sweet corn decrease very rapidly after it is pulled, especially during hot weather. In case you are canning sweet corn gather it only as needed and get it into the cans and processed just as quickly as possible. At our house we frequently gather the sweet corn early in the morning, remove the outer husks then place the ears in a paper bag and keep them near the coils in the refrigerator at a temperature near freezing until wanted for dinner. By this method none of the sweetness is lost, in fact you could keep the ears of corn for a week under those conditions and the quality would still be good but not as good as corn fresh from the patch.

There are two or three exceptions to the rule that fruits and vegetables keep best at low temperatures. One is the kieffer pear which ripens best at 60 degrees, however, kieffer pears may be stored at a lower temperature for a time then ripened at 60 degrees. Another exception is the sweet-potato which is at its best if cured at a temperature of about 85 or 90 degrees then stored at 55 degrees. Squashes and pumpkins are also best if cured at a high temperature then stored at about 50 or 55 degrees. Apples require a temperature well down toward the freezing point in order to be fully protected from the various pathogens or diseases that cause decay. Citrus fruits are being protected by passing them through a solution of just common borax, but chemical treatment has not proved as effective as low temperatures in the storage of most of our perishable fruits and vegetables. (Technical Bulletin No. 520)